

Note on Problem of Heat Exchange in a Pipe at  
High Rates of Air Motion, by G. V. Tsiklauri,  
V. V. Usanov, 6 pp.

RUSSIAN, per, Inzhenerno-Fizich Zhur, Vol III,  
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~~SECRET~~ MCL-868/1

Sci - Enys

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161,338

The Intensification of the Convective Heat  
Exchange in a Tube with a Twisting Flow ~~SEE~~  
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~~SEE~~ \*ATIC MCL-1290/V  
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11 Jul 61

Wire 10-7-134.  
5

Distribution of Temperatures in a Cylinder With  
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Liquid Flow, by T. L. Perelman, 4 pp.

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Vol III, No 11, pp 72-76. 9670174

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Sci - Phys

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An Investigation of the Viscosity of Certain  
Liquids in a Wide Temperature Field, by  
N. I. Kophlov.

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Vol III, No 11, 1960, pp 97-101. 9070169

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The Calculation of the Fundamental Region of An  
Aerodynamic Turbulent Wake in Closed Flow,  
by B. G. Khudenko, 11 pp.

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No 12, 1960, pp 3-10. 9673542

FTD-FF-61-135

Sci - Aero

2 Mar 62

186,248

THE SEDIMENTATION OF AEROSOL PARTICLES ON  
CYLINDERS, BY V. F. IGNAT'YEV.

RUSSIAN, PER, INZHENERO FIZ ZHUR, VOL 111,  
NO 12, 1960, PP 17-23.

NLL M.4629

SCI - CHEM

OTS 62-15703

203,005

JUL 62

Beresnev, B. I., Vereshchagin, L. F., and  
Ryabinin, Yu. N.  
CONDITIONS OF FLOW AND CHANGE OF ME-  
CHANICAL PROPERTIES OF METALS DURING EX-  
TRUSION BY LIQUID UNDER HIGH PRESSURE.  
6 Mar 61, 3p. AID rept. 61-27; AD-254 396.  
Order from OTS or SLA \$1.10

61-28290

Abstract trans. of Inzhenerno-Fizicheski Zhurnal  
(USSR) 1960, v. 3, no. 12, p. 43-48.

DESCRIPTORS: \*Metals, \*Metallurgy, Alloys, \*Ex-  
trusion, High pressure research, Liquids, Water  
Mechanical properties, USSR, Hydroforming, Hydro-  
static pressure.

An experimental method of metal extrusion by high-  
pressure liquids is reported. In the preliminary ex-  
periments ten liquids were tested as pressure-trans-  
(Metallurgy, TT, v. 6, no. 12) (over)

61-28290

- I. Beresnev, B. I.
- II. Vereshchagin, L. F.
- III. Ryabinin, Yu. N.
- IV. AID-61-27
- V. Air Information Div.,  
Washington, D. C.
- VI. AD-254 396

162109

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Flame Propagation Over a Liquid Surface,  
by P. G. Ipatov, 7 pp.

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No 12, 1960, pp 49-52. 9673543

FTD-TT-61-128

Sci - Phys

2 Mar 62

186,247



The Temperature Gradient in the Rangue-Hilsch  
Tube, by V. M. Brodyanskiy, I. L. Leytes,  
10 pp.

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No 12, 1960, pp 72-77. 9673540

FED-TT-161-157

Sci - Phys

2 Mar 62

186, 636

(NY-6880

AN ANALYTICAL & METHOD OF CALCULATING  
THE STATIC VOLT-AMPERE CHARACTERISTIC OF  
A THERMISTOR DURING CHANGE IN THE TEMPERATURE OF  
THE EXTERNAL MEDIUM, BY I. F. VOLOSHIN,  
5 PP

RUSSIAN, PER, INZHENERNO-FIZ ZHUR, VOL III,  
NO 12, 1960, PP 111-113.

JPRS 12220

SCI - ENGR, PHYS  
FEB 62

181,832

(NY-5974)

Experimental Investigation of the Density of  
Liquid Oxygen at - 190 to - 120°C and Pressures  
to 200 kg/cm<sup>2</sup>, Including the Saturation Curve,  
by D. L. Timrot, V. P. Borisoglebskiy, 20 pp.

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pp 3-13.

JPRS 9062  
NATL. TECH. STAND. 7-5  
156,990

Sci - Phys

May 61

The Rates of Chemical Reactions in Turbulent  
Flows, by A. S. Predvoditelev, 11 pp.

RUSSIAN, per, Inzhenerno Fiz Zhur, Vol IV,  
No 1, 1961, pp 14-21. ~~9675791~~

Sci - Phys

19 Mar 62

FED-TR-61-158

HEC UCRL Tr. 782

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Effect of Enthalpy Recovery on the Surface  
of a Cylinder Past Which Flows a High-Velocity,  
Gas Stream, by Ye. V. Shishov, 10 pp.

RUSSIAN, per, Inzhenerno Fiz Zhur, Vol IV,  
No 1, 1961, pp 37-43. 9675791

FTD-TP-61-158

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19 Mar 62

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A Study of the Effect of Ultrasonic Waves  
on the Heat Exchange of Bodies in Liquids,  
by A. A. Zhukauskas, A. A. Shlanohauskas,  
E. P. Yaronis, 7 pp.

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FTD-TT-61-110

OTS 63-18437

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Sci - Phys  
2 Mar 62

(NC-6300)

The Dissemination of Admixtures From An Instantaneous Point Source, by Yu. S. Sedunov, 9 pp.

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JPRE 10949

Sci - Phys  
Dec 61

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Calculation of the Temperatures in Nuclear  
Reactor Fuel Elements Under Transient  
Conditions, by V. S. Yermakov, I. P. Zhuk,  
O. I. Yaroshevich, 9 pp.

RUSSIAN, per, Inzhenerno Fiz Zhur, Vol IV,  
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The Equation of State for a Stoichiometric  
Nitrogen-Hydrogen Mixture, by Y. Ya. Z.  
Kazavchinskiy, A. G. Tabachnikov, 6 pp.

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1961, pp 116-119. 9677225

FTD-TT-62-112

Sci - Phys  
Jun 62

199,512

(NY-5990)

Terminology of Heat and Mass Transfer <sup>1</sup>, by  
I. T. El'perin, 28 pp.

RUSSIAN, per, Inzhenerno-Fiz Zhur, Vol IV,  
No 1, 1961, pp 131-148.

JPRS 9387

Sci - Phys  
Jun 61

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A Numerical LaPlace Transform, by V. S. Aizenshtat,  
A. S. Metelsky, 11 pp.

RUSSIAN, per, Inzhenerno-Fiz Zhur, No 2, 1961.

USASIA Tr-1160

Sci - Phys  
Jun 61

OT 62-52000

152, P93

An Experimental Determination of the Entropy  
of Corundum ( $\text{Al}_2\text{O}_3$ ) from 500 to 2000°C, by  
V. A. Kirillin, A. E. Sheindlin, V. Ya.

Chakhovskoy, 17 pp.

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Vol 4, No 2, 1961, pp 3-17. P911221367

AEC ANL Tr-450

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Sci - Physics

Jul 67

Kinetic Theory of Dislocations, by N. S. Akulov, 8 pp.  
RUSSIAN, per, Inzhenerno-Fiz Zhur, Vol IV, No 2, 1961,  
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JPRS 23509

Sci-Mat & Met  
Mar 64

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HEAT AND MASS TRANSFER DURING EVAPORATION OF A  
LIQUID IN A FORCED GAS FLOW, BY G. T. ~~SERXEYEV~~  
SERGEYEV, 6 PP.

RUSSIAN, PER, INZHENERNO+~~FIZ~~ ZHUR, VOL IV,  
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FTD-TT-62-327

SCI - PHYS  
JUL 62

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Regularities Observed in Mixtures of Liquid Fuel  
During Ignition, by V. I. Blinov, 6 pp.

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No 2, 1961, pp 95-98. 9678831

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Sci-Chem  
Dec 62

217,621

Application of Permeable Porous Ceramics  
for the Experimental Study of Mass  
Transfer Phenomena, by B. I. Fedorov,  
Z. P. Shul'man, 5 pp.  
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1961, pp 99-102. 9227158  
AEC-ANL-Tr-148

Sci-Phys  
Apr 65

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Experimental Determination of the Effective  
Coefficient of Heat Conductivity and  
Diffusion for Bodies With Channel Porosity,  
Using the Method of Electrical Analogy, by  
G. Ye. Morozov, 5 pp.

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FTD-TT-61-111

Sci - Phys

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15 Feb 62

On the Change of Heat Transfer Intensity Through  
a Dielectric in an Electric Field, by

I. Ye. Balygin.

RUSSIAN, per, Inzhenerno-Fizicheskiy Zhurnal,

Vol 4, No 2, 1961, pp 113-115.

NASA TT F-11,848

Sci

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SF-1675 ).

Lev Gerasimovich Loytsyanskiy (60th Birthday), by  
S. S. Zabrodskiy, B. M. Smolskiy, Z. P. Shul'man,

RUSSIAN, per, Inzhenerno-Fizicheskiy Zhur, Vol IV,  
No 2, 1961, pp 116-118.

\*JPRS 4591

Sci - Biographic-Misc

17 Mar 61

The Contemporary State of the Question of Heat  
Exchange in Rarefied Gases, by A. N. Devoyno,  
17 pp.

RUSSIAN, per, Inzhenerno Fiz Zhur, Vol IV,  
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FTD-TT-61-202

Sci - Phys

19 Mar 62

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Calculation of Heat Transfer During Laminar Flow  
of a Fluid in Pipes Within a Range of Small  
Peclet Numbers, by B. S. Petukhov,  
F. F. Tsvetkov, 11 pp.

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No 3, 1961, pp 10-17. 9664292  
NLL RTS 2328 on purchase order  
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Sci - ENGE Phys

TT-44-23504  
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19 Mar 62

Flow Past a Plate by a Gas Burning on Its  
Surface, by L. M. Artyukh, L. A. Vulis,  
V. P. Kashkarov, 11 pp.

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No 3, 1961, pp 39-45. 9664292

FTD-TT-61-321

Sci - Phys

19 Mar 62

188, 310

Solution of Heat Conduction Problems by the Grid Method,  
by G. F. Muchnik, 15 pp.  
RUSSIAN, per, ~~Inzhenerno-Fizi Zhur Ak Nauk BSSR~~  
Vol IV, No 3, 1961, pp 72-82. 9220709  
NASA TT F-151

Sci - Phys  
Apr 64

ATS - RJ - 5412

ATS - 51R 78R

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NLL Ref: 8731.9 1964 (151)  
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The Viscosity of Air, Nitrogen, and Argon at  
Low Temperatures and Pressures to 150  
Atmospheres, by G. P. Filippova, I. P. Ishkin,  
7 pp.

RUSSIAN, per, Inzhenerno Fiz Zhur, Vol IV,  
No 3, 1961, pp 105-109. 9677357

FTD-TT-62-113

Sci - Phys  
10 Jul 62

202,258



Effect of the Divergence Angle on the Position  
of the Shock Wave in a Supersonic Nozzle for  
Uncalculated Conditions in the Presence of  
Heat Transfer, by S. I. Kesterin, 8 pp.

RUSSIAN, per, Inzhenerno Fiz Zhur, No 4,  
1961, pp 3-9.

ACSI I-0026  
ID 2174793

Sci - Engr

20 Mar 62

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Artyukh, L. Yu., Vullis, L. A., and Kashkarov, V. P.  
COMBUSTION OF GAS FLOWING AT THE SURFACE  
OF A PLATE [Obtekanie Plastiny Gazom Goryatsim na  
Ee Poverzhnosti]. Oct 61, Sp. 7 refs.  
Order from ICE in v. 1, no. 1, \$15.00/year

Trans. of Inzhener[no]-Fiz[icheskii] Zhur[nal] (USSR)  
1961, v. 4, no. 3 [p. 39-45].  
Other translations are available from OTS \$0.50 as  
61-31682, APL/JHU TG-T246, 30 Aug 61, 9p.; and from  
OTS or SLA \$2.60 in 62-19284, FTD-TT-61-321,  
29 Jan 62 [25]p.; an abstract trans. from OTS or SLA  
\$1.10 as 61-23489, AID-61-80, 23 May 61, 3p.

DESCRIPTORS: \*Gas flow, \*Boundary layer, \*Combustion,  
\*Compressible flow, Heat exchange, Surface  
properties, Temperature.

For abstract see Technical Translations 7: 367, 1962.  
(Physics--Thermodynamics, TT, v. 9, no. 4)

- I. Artyukh, L. Yu.
- II. Vullis, L. A.
- III. Kashkarov, V. P.
- IV. International Chemical  
Engineering, New York

Office of Technical Services

The Calculation of Thermodynamic Functions of a  
High-Temperature Air/Carbon Mixture, by V. L.  
Sergeyev, 14 pp.

RUSSIAN, per, Inzhenerno Fiz Zhur, Vol IV, No 4,  
1961, pp 16-24. 9097021

AEC NP Tr-812

NLL M. 4600

Sci - Phys

Mar 62

186,507

About Heat Exchange in a Laminar Current  
Flowing in a Tube, by T. L. Perol'man,  
8 pp.

RUSSIAN, per, Inzhenerno-Fiz Zhur, Vol IV,  
No 4, 1961, pp 43-48. 9678947

PTD-TT-62-1233

Sci-Phys  
Dec 62

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62-14229

I. Beolpol'skii, M. S.

Beolpol'skii, M. S.  
CHANGE IN STRUCTURE OF COLLOIDAL CAPIL-  
LARY POROUS MATERIAL (CLAY) DURING DRYING  
PROCESS. 13 Feb 62, 9p. (3 figs. omitted) 13 refs.  
Order from OTS or SLA \$1.10 62-14229

Trans. of Inzhenerno-Fizicheskii Zhurnal (USSR)  
1961, v. 4, no. 4, p. 49-54.

DESCRIPTORS: \*Porous materials, \*Clays, \*Dehy-  
dration, Moisture, Deformation, Mechanical proper-  
ties, \*Colloids, Microstructure.

The paper analyzes changes in the structure of clay  
during the drying process on the basis of structural-  
mechanical, shrinkage, and desorption properties. We  
determined the connection between critical points on  
shrinkage curves, curves of drying rate, and curves  
of desorption and the critical points of structural  
changes. (Author)  
(Chemistry--Physical, TT, v. 8, no. 4)

Office of Technical Services

Use of the Out-of-Focus Method in a Shadow Instrument  
for Measuring the Density in a Jet Flowing Out of a  
Nozzle Under ~~XXXXXXXXXX~~ Conditions, by Chiang Che-hsing.  
Uncalculated

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No 4, 1961, pp 10-15.

\*FTD TT-62-22

Jan 62  
Sci - Phys

The Crystallization of Supercooled Liquid in an  
Ultrasonic Field, by L. O. Maleshko, 4 pp.

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Beloruskoi SSR, Vol IV, 1961, pp 123-125. 9080250

AEC Tr-4635

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Sep 61

167, 851

EXTERNAL HEAT AND MASS TRANSFER IN EVAPORATION  
OF A LIQUID FROM A CAPILLARY-POROUS BODY,  
BY G. T. SERGEYEV, 7 PP.

RUSSIAN, PER, INZHENERNO-FIZ ZHUR, VOL IV,  
NO 5, 1961, PP 33-37.  
9665783

FTD-TT-62-329

SCI - PHYS  
JUL 62

204,465



Predvoditelev, A. S.  
ON THE NATURE OF THERMAL MOTION IN  
LIQUIDS, PT. 1. Jan 62, 6p.  
Order from ICE in v. 2, no. 1, \$15.00/year

Trans. of Inzhenerno-Fizicheskii Zhurnal (USSR)  
1961, v. 4, no. 6, p. 3-12.

DESCRIPTORS: Thermodynamics, \*Thermal diffusion,  
\*Hydrodynamics, \*Fluid flow, Liquids, Heat of  
formation, Density, \*Chemical engineering.

(Physics--Thermodynamics, TT, v. 8, no. 10)

62-34287

I. Predvoditelev, A. S.  
II. International Chemical  
Engineering, New York

Office of Technical Services

Laws of Resistance and Heat Transfer in a  
Turbulent Boundary Layer of Compressible  
Gas and the Calculation of Friction and  
Heat Transfer, by S. S. Kutateladze,  
A. I. Leont'yev, 13 pp.

RUSSIAN, per, ~~XXXXXXXXXX~~ Inzhenerno-Fiz  
Zhur, Vol IV, No 6, 1961, pp 33-41.  
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Sci - Phys  
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Calculating the Supersonic Section of a Laval  
Nozzle, by A. Sh. Dorfman. 10 pp.  
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Vol 4, No 6, 1961, pp 51-57.  
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jan 70

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The Speed of Sound in Water and in Water  
Vapour on the Saturation Line, by V. V. Sychev.

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No 6, 1961, pp 64-69.

NLL M 3969

Sci - Phys  
Feb 63

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THE BASIC PATTERNS OF HEAT TRANSFER IN A RAREFIED  
GAS IN THE CASE OF NATURAL CONVECTION, BY  
A. N. DEVOYNO, 13 PP.

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XII 1961, PP 70-77. 9677931

FTD-TT-62-677

SCI - PHYS  
AUG 62

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The Solution of Certain Three-Dimensional Problems  
of Radiant Heat Transfer by Reducing Them to  
Two-Dimensional Problems, by E. I. Mikk, I. P.  
Epik, 18 pp.

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1961, pp 90-100. 9678094

FTD-TT-62-330

Sci - Phys  
Sep 62

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Predvoditelev, A. S.  
ON THE NATURE OF THERMAL MOTION IN  
LIQUIDS, PT. 2. Jan 62, Sp. 1 ref.  
Order from ICE in v. 2, no. 1, \$15.00/year

Trans. of Inzhenerno-Fizicheskii Zhurnal (USSR)  
1961, v. 4, no. 7, p. 3-10.

DESCRIPTORS: Thermodynamics, \*Heat transfer,  
\*Thermal conductivity, \*Hydrodynamics, Liquids,  
Energy, Density, Evaporation, \*Chemical engineering

(Physics--Thermodynamics, TT, v. 8, no. 10)

62-34288

I. Predvoditelev, A. S.  
II. International Chemical  
Engineering, New York

Office of Technical Services

THE EFFECT OF VARIABLE HEAT FLOW ALONG THE  
SURFACE OF A PIPE ON HEAT TRANSFER WITH TURBULENT  
FLOW, BY G. S. AMBROK, 8 PP.

RUSSIAN, PER, INZHENERNO-FIZ ZHUR, VOL IV, NO 7,  
1961, PP 19-24. 9665958

FTD-TT-62-380

SCI - ENGR  
AUG 62

207,994



The Effect of the Temperatures of the Flow and  
the Wall on the Heat Transfer During the Cross-  
flow of a Liquid through a Tube Bundle, by

V. M. Antuf'ev.

RUSSIAN, per, Inzhenerno-fizicheskii zhurnal,

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Feb 68

349,641

THE PULSE METHOD OF DETERMINING THE ENERGY OF SUB+  
LIMATION OF METALS AND ALLOYS, BY N. A. PROTOPOPOV,  
V. M. KUL'GAVCHUK, 9 PP.

RUSSIAN, PER, INZHENERNOYE ZHUR, VOL IV, NO 7,  
1961, PP84-90. 9678242

FTD-TT62-797

SCI - PHYS  
11 OCT 62

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THE POSSIBILITY OF USING CERTAIN ORGANIC SCINTILLATORS  
FOR DOSIMETRY, BY YU. A. YEGOROV, V. A. KUCHERYAYEV,  
4 PP.

RUSSIAN, PER, INZHENERNO-FIZ ZHUR, VOL IV, NO 7, 1961,  
PP 117-119. ~~9678379~~

FTD-TT-62-678

SCI - PHYS  
11 OCT 62

~~202~~ 212,334

(SP-1879)

First All-Union Conferences on Heat- and  
Mass-Exchange, by I. P. El'perin, 27 pp.

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1961, pp 124-136.

JPRS 12845

Sci - Phys  
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LIQUIDS, PT. 3. Jan 62, 4p. 16 refs.  
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Trana. of Inzhenerno-Fizicheskii Zhurnal (USSR)  
1961, v. 4, no. 8, p. 3ff

DESCRIPTORS: Thermodynamics, \*Thermal diffusion,  
\*Thermal conductivity, \*Hydrodynamics, Liquids,  
Density, Viscosity, \*Chemical engineering.

(Physics--Thermodynamics, TT, v. 8, no. 10)

62-34289

I. Predvoditelev, A. S.  
II. International Chemical  
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Office of Technical Services

HEAT TRANSFER OF A TWO-PHASE FLOW WITH A CLUSTER  
OF PIPES, BY I. T. EL'PERIN, 9 PP.

RUSSIAN, PER, INZHENERNO-FIZ ZHUR, VOL IV,  
NO 8, 1960, PP 30-35. 9677926

FTD-TT-62-679

SCI - PHYS  
AUG 62

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Investigating an Automatic Control System for the  
Power Level of a Nuclear Reactor, by A. V. Bondarenko,  
Yu. A. Voznesenskiy, 6 pp.

RUSSIAN, per, Inzhenerno-Fiz Zhur, Vol IV, No 8, 1961,  
pp 54-62.

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62-34295

Dogin, M. E. and Lebedev, V. P.  
DEPENDENCE OF THE RESISTANCE IN PNEUMATIC-CONVEYING PIPELINES ON THE FUNDAMENTAL PARAMETERS OF TWO-PHASE FLOW. Jan 62, 4p. 4 refs.

Order from ICE in v. 2, no. 1, \$15.00/year

Trans. of Inzhenerno-Fizicheskii Zhurnal (USSR)  
1961, v. 4, no. 8, p. 93ff.

DESCRIPTORS: \*Pneumatic systems, \*Conveyors, Resistance, \*Phase studies, Fluid flow, Gas flow, Particles, \*Chemical engineering.

- I. Title: Pipelines
- I. Dogin, M. E.
- II. Lebedev, V. P.
- III. International Chemical Engineering, New York

(Machinery--Transport, TT, v. 8, no. 10)

Office of Technical Services



The Cellular Structure of a Convection Current  
in a Vertical Cyliner of Circular Cross-Section,  
by E. I. Slavnova.

RUSSIAN, per. Inzhenerno-Fizicheski Zhurnal,  
No 8, 1961, pp 80-86.

P911347567

AEC IS-TRANS-60

Sci-Mat  
Nov 1967

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STATIONARY HEAT CONDUCTIVITY IN A SEMI-LIMITED  
BODY WITH INTERNAL CYLINDRICAL HEAT  
SOURCES, BY I. A. IOFFE, 5 PP.

RUSSIAN, PER, INZHENERNO-FIZ ZHUR, VOL IV,  
NO 8, ~~1961~~ 1961, PP 111-113. 9677926

FTD-TT-62-679

SCI - PHYS

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AUG 62

DETERMINATION OF THE ENTRAINMENT OF A LIQUID  
BY A GAS STREAM FROM THE SURFACE O

ZHIVAYKIN, L.YA      LANGUAGE=RU      COUNTRY=UR

INZHENERNO-FIZICHESKIY ZHURNAL NO 8, 1961 PP  
114-115

FSTC-HT-23-1992-72

Determining the Velocity of an Average-size Condensate Drop in a Flow of Saturated Vapor,  
by I. P. Paddeyev, 5 pp.  
RUSSIAN, per, Inzhen Fiz Zhur, Vol IV, No 9, 1961,  
NASA TT F-364

Sci - Phys

Aug 65

287,263

Method of Investigating Boundary Layer in  
a Few Type Working Section, by  
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DESCRIPTORS: \*Chemical engineering, Hydrodynamics, \*Fluid flow, \*Heat transfer \*Mass transfer, Porous filters, Phase studies, Capillaries, Osmotic pressure.

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DESCRIPTORS: \*Chemical engineering, Spheres,  
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Mass transfer, Vacuum systems.

(Engineering--Chemical, TT, v. 8, no. 11)

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(Engineering--Chemical, TT, v. 8, no. 11)

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DESCRIPTORS: \*Chemical engineering, Solutions,  
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